

PROCEEDINGS
OF THE
Hawaiian Entomological Society

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FOR THE YEAR 1932

Oct., 1933

JANUARY 7, 1932

The 312th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station of the Hawaiian Sugar Planters' Association on January 7, 1932, at 2:30 p.m.

Members present: Messrs. Bianchi, Bryan, Carter, Chapman, Chock, Ehrhorn, Fullaway, Hagan, Illingworth, Ito, Keck, Marlowe, Mason, McBride, Pemberton, Olsen, Rosa, Sakimura, Smith, Swezey, Van Zwaluwenburg, Watt, Weinrich, Willard and Williams.

Visitors: Messrs. Blackman, Schmidt, Solander, Volck and Dr. Woltereck; Miss Dobroscky and Miss Suehiro.

President Chapman called the meeting to order.

The minutes of the preceding meeting were read and approved.

Mr. Fullaway stated that he had audited the Society's accounts for the year 1931, and found them to be correct.

The members of the Society and the visitors then went out in the grounds where a group photo was taken, then returned to the meeting room.

Mr. Swezey presented to the Society a picture of the staff of the H.S.P.A. Experiment Station for 1907, with the entomologists especially designated. Mr. Ehrhorn also presented a photograph of some entomologists.

Messrs. G. V. B. Herford, J. S. Phillips and Carl T. Schmidt were duly elected to Junior membership.

PAPERS

Dr. Carter reviewed a paper (to be published elsewhere) relating to the measuring of pineapple mealybug populations in the field and determination of their migration in from the edge of the

field. A considerable discussion re ants and mealybugs, ant traps, etc., followed.

President Chapman, having a business engagement, now turned over the meeting to Vice-President Hagan and the meeting continued.

Mr. Bryan introduced Dr. R. Woltereck, of the University of Leipzig, who is particularly interested in the small crustacea of fresh water (Entomostraca, Genetics of Cladocera). Dr. Woltereck made a brief statement of his work, which is genetical and ecological in character. He is going to the Orient and farther east to study lake faunas, etc.

NOTES AND EXHIBITION OF MATERIALS

**Cecidomyid from hibiscus buds*.—Mr. Swezey exhibited specimens of an undetermined cecidomyid reared from larvae in flower buds of hibiscus collected in the grounds of Mr. J. W. Waldron, Nuuanu Avenue, Honolulu, November 19, 1931. The buds had all fallen from a few bushes before opening, so that no flowers were being obtained. The adults began issuing December 4. On December 1, Mr. Swezey found infested buds on a hibiscus in his own garden in Manoa, from which adult midges issued December 19. He has searched for infested buds in other parts of the city, but to date had found none except in these two places. This is the first record of this immigrant insect in Honolulu. Specimens will be sent away for determination.

Hierodula patellifera (Serv.).—Mr. Swezey exhibited a specimen of this mantid which had recently been identified by Mr. Morgan Hebard of the Philadelphia Academy of Sciences. This mantid is the one recorded in Proc. Haw. Ent. Soc., VI, p. 11, 1925, as having been received from Waimea, Kauai, April 1, 1924. No more specimens have yet been collected, so far as known. The species occurs in Java and the Philippines.

Platyptilia brachymorpha Meyr.—Miss Suehiro reported that this pterophorid moth, which was identified by Mr. Swezey as *Playptilia brachymorpha* Meyr., was found quite numerous on ornamental snapdragon buds. This species has not been reported

* *Contarinia maculipennis* n. sp., described by Felt on page 247 of this issue. [Ed.]

from Oahu since Perkins captured it on Waialua beach in 1892. This is the first record of any food plant.

Hydrophorus sp.—Dr. Williams exhibited a specimen of this fly (Dolichopodidae) and its pupal shell. It breeds in the lowland mud flats, the larva feeding upon various dipterous larvae, while the adult was observed pulling blood-worms (*Chironomus*) out of watery mud, and holding them with forelegs and mouth, devouring them. The larva forms a cocoon and the pupa is extruded to disclose the adult. The adult fly skates on the water.

FEBRUARY 4, 1932

The 313th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., on February 4, 1932, at 2:45 p.m.

Members present: Messrs. Bryan, Ehrhorn, Herford, Mason, Rosa, Schmidt, Swezey, Van Zwaluwenburg and Williams.

Visitors: Miss Dobrosky and Miss Suehiro.

In the absence of both the President and the Vice-President of the Society, Mr. E. M. Ehrhorn was chosen President pro tem.

The minutes of the previous meeting were read, corrected and approved.

Mr. Swezey, of the Photographs-of-Entomologists Committee, showed the three photos taken at the previous meeting of the Hawaiian Entomological Society and stated that they were ready for selection by members and suggested that they be paid for from the treasury of the Society. Mr. Van Zwaluwenburg suggested that the Society should keep a set of these three group pictures.

NOTES

Copris incertus var. *prociduus* (Say).—Mr. Swezey reported that Mrs. Thompson, a science teacher at Punahou, last December 14, 1931, brought in for determination a specimen of this beetle which a pupil had collected at University Avenue. This would indicate that the beetle has become established on Oahu from small colonies that were liberated in the Punahou pasture, September 24 and October 27, 1930. It is the first recovery on Oahu, so far as known.

MARCH 3, 1932

The 314th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., on March 3, at 2:35 p.m.

Members present: Messrs. Bianchi, Bryan, Ehrhorn, Fullaway, Hagan, Herford, Illingworth, Keck, Mason, Mitchell, Olsen, Rosa, Schmidt, Smith, Swezey, Van Zwaluwenburg, Weinrich, Wilder, Williams.

Visitors: A. M. Adamson, Lex Brodie, O. Bryant, Dr. Irene D. Dobroscky, N. H. Krauss, W. F. Robertson, W. H. Volck and Dr. H. Yuasa.

The meeting was called to order by Vice-President Hagan.

The minutes of the preceding meeting were read and approved.

Photograph Committee.—Mr. Swezey circulated samples of the latest group photos of the Society for the signature of those who wanted the photographs. Mr. Ehrhorn on behalf of Mrs. W. M. Giffard presented the Society with an old photo that included Mr. A. Koebele, and another picture of Dr. F. A. G. Muir.

Dr. Gerrit P. Wilder presented the Society with a nearly complete set of the Fauna of Samoa.

PAPERS

Mr. Swezey on behalf of Dr. E. P. Felt presented a paper on "A Hibiscus Bud Midge New to Hawaii."

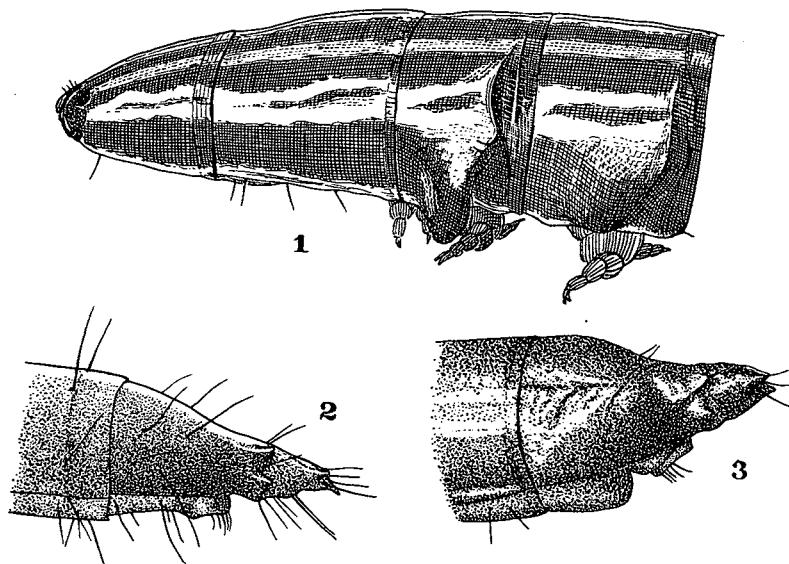
NOTES AND EXHIBITIONS

Mr. Adamson of the Pacific Entomological Survey spoke on the genus *Rhyncogonus* as represented in the Marquesas Islands. He exhibited material.

Mr. Bryant spoke of collecting insects for three summers in the Canadian Arctic. The eastern and the western faunas, probably with James Bay as a separator, were different.

Dr. Yuasa, of the Kyoto Agricultural College, spoke of entomological work in Japan, gave an interesting synopsis of some of the entomological journals there. Konshu = Insecta. Mushi = vernacular name for insect, "bug."

Prothetelous elaterid larva.—A prothetelous larva of *Simodactylus cinnamomeus* (Boisd.) from the H.S.P.A. collections, was exhibited by Mr. Van Zwaluwenburg. The specimen was taken in March, 1911, in cow dung at Grove Ranch, Maui, and is predominantly larviform with a carrying back of pupal characters into the larval stage. Fairly well developed wing-buds occur on the second thoracic segment, and less well developed ones on the third. In addition, the armature of the terminal abdominal segment is strongly reduced and simpler than in the normal larval condition, and seems to represent an approach to the terminal structure of the pupa. This is the second local case of prothetely in elaterids, Dr. F. X. Williams in 1925 having reported and figured a prothetelous *Monocrepidius exsul* Shp. (Proc. Haw. Ent. Soc., Vol. 6, p. 211).



Prothetelous larva of *Simodactylus cinnamomeus*.

1. Anterior end, lateral view.
2. Normal larva, posterior end, lateral view.
3. Prothetelous larva, posterior end, lateral view.

Mr. Swezey exhibited a collection of insects collected by himself and Dr. Williams in September and October, 1931, at Nauhi, Keanakolu and the higher slopes and summit of Mauna Kea, Hawaii.

Plagithmysus muiri Perkins.—A fine specimen of this endemic cerambycid beetle was exhibited by Mr. Swezey. It had just matured from a larva found in a Sideroxylon tree in Mohiakea Valley, Waianae Mts., January 3, 1932. It is the first time this beetle has been secured since its original rearing from a Sideroxylon tree in Haleauau Valley, November 11, 1926.

Plagithmysus kuhnsi Perkins.—A fine specimen of this beetle was also exhibited by Mr. Swezey. It had recently matured from a larva found in Pipturus tree in Haleauau Valley, Waianae Mts., January 3, 1932. Dead Pipturus trees are considerably bored by the larvae of this beetle in that valley, but the beetle is seldom reared.

Sympherobius barberi Banks.—Mr. Fullaway reported that Nathan Banks of the Museum of Comparative Zoology at Harvard College, Cambridge, Mass., has determined the lace-wing fly introduced several years ago from Mexico to be this species. The insect has been reared in large numbers and liberated at various places, principally in pineapple fields, but though it has been recovered on several occasions its establishment is still somewhat uncertain.

Melanoxanthus melanocephalus (Fabr.).—Mr. Van Zwaluwenburg mentioned that in the H.S.P.A. Experiment Station collections is a specimen of this species, hitherto known locally only from Oahu, which was taken May 28, 1930, by Mr. O. H. Swezey at Olowalu, Maui. A new record of distribution.

APRIL 7, 1932

The 315th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., on April 7, 1932, at 2:35 p.m.

Members present: Messrs. Adamson, Bryan, Carter, Chapman, Ehrhorn, Fullaway, Hagan, Herford, Illingworth, Ito, Keck, Mason, McBride, Mumford, Olsen, Rosa, Smith, Swezey and Van Zwaluwenburg.

Visitors: Lex Brodie, Dr. Irene Dobrosky, J. d'A. Northwood, Miss Amy Suehiro and Dr. Hachiro Yuasa.

The meeting was called to order by President Chapman. In the absence of the regular Secretary, Dr. Hagan was appointed as Secretary pro tem.

The minutes of the preceding meeting were read and approved, as corrected.

Photograph Committee.—Mr. Swezey passed group photographs again for orders from members.

Mr. Ehrhorn contributed photos of Dr. F. Muir and of several others.

Mr. Bryan suggested that a photograph of Dr. N. A. Cobb be added to the collection of photos of Hawaiian Entomologists. He had a photo.

Mr. Van Zwaluwenburg moved to approve sending "Proceedings" to Kyoto and Dr. Yuasa. The motion passed. Mr. N. H. Krauss was elected to Junior membership.

Mr. Henry Holmes, an attorney, submitted his resignation. Mr. Swezey spoke briefly of Mr. Holmes' history and connection with the Entomological Society. Mr. Fullaway moved to accept the resignation and to write a letter expressing appreciation of his past support. Passed.

Dr. Yuasa presented three books to the Society, as follows:

Manual Applied Zoology.

Illustrated Manual of Japanese plants, and a book on the Lepidoptera of Japan. Mr. Van Zwaluwenburg moved to accept these books with thanks. Passed.

Mr. Swezey discussed the problem of contributing "Proceedings" to sugar plantation managers (about 40). He moved that managers be informed that sets are available if they want them. Passed, and the Secretary was instructed so to inform them.

EXHIBITION OF, AND NOTES ON LOCAL MATERIAL

Plagithmysus cuneatus Sharp.—A specimen of this beetle was exhibited by Mr. Swezey, which had matured from a larva brought in March 20, from Niu Valley, where larvae were found by himself and Dr. Williams quite abundant in dying branches of *Sapindus oahuensis* trees. Several of the trees were found along the

trail that follows along the ewa side of the ridge that occupies the middle of the valley. They all showed exit holes of the beetle. Nine larvae and one pupa were collected from beneath bark, and about as many injured at the same time. The pupa died. One larva pupated March 21; 8 were put in holes in blocks of wood. The pupa became adult April 1, and took five days to become fully hardened and colored up. This is the first time that this beetle has been reared from its host tree. Three beetles had been collected by Forbes from this tree in Wailupe Valley in 1917. The first collecting of this species was by Dr. Perkins in the Waianae Mts. in 1893, but he did not know the tree from which they were collected.

Nausibius clavicornis (Kug.).—A specimen of this cucujid beetle was exhibited by Mr. Swezey, who had collected it under decaying bark of *Sapindus oahuensis* growing on Niu Ridge, March 20, 1932. This beetle was collected originally by Mr. Blackburn, and was said to be common in Honolulu. However, there are no records of it since Blackburn's collecting and this was the first time Mr. Swezey had taken it.

Margaronia cyanomichla Meyr.—A specimen of this pyraustid moth was exhibited by Mr. Swezey, who had reared it from a small larva on leaf of *Pseudomorus brunoniana*, Haleauau Valley, Waianae Mts., Oahu, March 13, 1932. The larva pupated March 25, 1932, and the moth issued April 5. This is the first discovery of the native host plant of this moth. The only previous rearing was from cultivated mulberry in the grounds of the Catholic Boys' School, Hilo, Hawaii, August 23, 1912.

Anagyrus saccharicola Timberlake.—Mr. Swezey reported that this encyrtid parasite on the pink sugar cane mealybug, introduced from the Philippines in 1930, has lately been found established and spread to all extremes on Ewa Plantation, Oahu Sugar Company and Honolulu Plantation. He had also found it established at Mapulehu, Molokai, April 4.

{ *Diomus margipallens* (Muls.)

{ *Scymnus pictus* Gorh.—Mr. Swezey reported that in March a few specimens of these ladybeetles were found in various fields of Ewa Plantation. They were introduced from Mexico in 1930

by the Board of Agriculture as enemies of the pineapple mealybug. They are thus now found to have taken to the cane mealybug.

Cryptorhyncus mangiferae (Fab.).—Mr. Swezey reported the collecting of one of these weevils on a fallen mango at Mapulehu, Molokai, April 4, 1932. He also found small larvae in seeds of fallen mangoes at Kawela, Molokai, the same day. These are the first records of the mango weevil on Molokai. It has been known on Oahu, Kauai, Maui and Hawaii for a long time.

Ceromasia sphenophori Vill.—Mr. Swezey reported finding the New Guinea tachinid parasite of the sugar cane borer in cane field at Mapulehu, Molokai, April 4, 1932. Apparently it had not previously been reported from that island.

Cryptotermes piceatus Snyder.—Mr. Bryan exhibited a framed picture so infested by Cryptotermes that even part of the print had been consumed.

Camponotus maculatus F, race *mitis* Sm., var. *hawaiensis* F.—Mr. J. d'A. Northwood presented the following observations on this ant: Nest found about February 26, identified as above by Mr. E. H. Bryan, March 7, one queen, about six soldiers and a dozen winged immature queens and perhaps a hundred workers. Unable to find small slender males. About 75 pupa cases of varying sizes. No larvae. Workers tearing open pupae cases and eating pupae, also eating wings off living immature queens. Queen not laying.

April 3. Diluted honey acceptable, also cockroaches which they refused a week or two ago. This they take into nest and devour. When taking honey abdomen swells noticeably and on return to nest they feed the others. All pupae have now emerged (or been eaten) and last week a cluster of eggs arrived. More active in evenings.

Sting? When alarmed, abdomen is curled forward between legs until tip is presented to front. Also when alarmed they twitch strongly. Sight very poor, though eyes prominent.

Mr. E. M. Ehrhorn reported on the beginning of flights of termites. He said they are coming out earlier in the day this year than in the past.

EXHIBITION OF, AND NOTES ON FOREIGN MATERIAL

Mr. Bryan exhibited part of a collection of insects made by Professor F. L. Washburn of the University of Minnesota, in the Society and Marquesas Islands, 1922-1923 and 1925-1926. The specimens were sent to B. P. Bishop Museum for identification.

Mr. E. P. Mumford gave an example of *discontinuous geographical distribution in the Marquesas*, as follows:

Cyphogastra bedoci Théry (1926), a buprestid beetle at present thought to be endemic to the Marquesas and there restricted to the islands of Uapou and Fatuhiva.

In a MS. to be published shortly in the Pacific Entomological Survey Series, K. G. Blair of the British Museum distinguishes three varieties: *C. bedoci*, the typical form from Uapou, *C. bedoci* var. *obscura* from Fatuhiva, *C. bedoci* var. *cyanescens* from an unknown locality. Large series of the first two were taken by the Pacific Entomological Survey, the third variety *cyanescens* has been described from a few specimens submitted to the British Museum by Mr. Ahnne of Papeete.

The three forms vary in puncturation, coloration, apical spines, etc. They all show considerable variation in size, from 24-37 mm.

In Uapou, *C. bedoci* is known by the natives as *he*. In the other islands, the name is used to denote the stick insect, *Graeffea crouanii* (Le Guillou), commonly found on coconuts.

It commonly occurs on *taie*, *Terminalia catappa* (Combretaceae). This tree is widely distributed in the old-world tropics.

MAY 5, 1932

The 316th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., on May 5, 1932, at 2:35 p.m.

Members present: Messrs. Adamson, Bryan, Bianchi, Carter, Chapman, Ehrhorn, Fullaway, Hagan, Illingworth, Keck, Krauss, Mason, Mumford, Olsen, Rosa, Schmidt, Smith, Swezey, Van Zwaluwenburg, Weinrich, Wilder and Williams.

Visitor: Miss Dobrosky.

President Chapman called the meeting to order.

The minutes of the preceding meeting were read and approved.

Mr. Swezey, representing the photo committee, distributed to members the latest photographs of the Society.

The Secretary-Treasurer brought up the question of membership dues; where the member was elected, for example, during the second, third or fourth quarter, should he pay full dues for that year, or only in proportion? Considerable discussion ensued. Dr. Illingworth then made a motion that the year of election be divided into quarters and that the member involved pay accordingly; 25 per cent for each quarter. Seconded.

More discussion; then a simplifying amendment was offered as follows: "that the payment of dues for the year of election be made on a semi-annual basis, full dues if elected on or before June 30th, or half dues if elected after June 30th." Seconded by Mr. Van Zwaluwenburg. Carried. Then original motion carried.

Dr. Hagan moved that the Hawaiian Entomological Society appoint Dr. Walter Carter as its delegate to the Fifth International Entomological Congress to be held at Paris in July, 1932. Seconded by R. H. Van Zwaluwenburg and passed. The President then instructed the Secretary to write credentials for Dr. Carter.

NOTES AND EXHIBITION OF LOCAL MATERIAL

Mezium americanum Lap.—Mr. Swezey exhibited specimens of this ptinid beetle which had been handed to him by Dr. H. I. Lyon, March 14, 1932. They were said to have been found among stored seeds at the Vineyard Street Nursery. Specimens had been submitted to Dr. E. C. Van Dyke at the University of California, who replied that they agreed with their *Mezium americanum*. This is the first record of the identity of this beetle in Hawaii, but it had been collected previously by Bridwell in sparrow nests in 1916 (Proc. Haw. Ent. Soc., III, p. 288, 1917), and by Swezey in dried sunflower heads in 1912.

Hyposmocoma alliterata Walsm.—Mr. Swezey exhibited a specimen of this tiny white black-spotted moth bred from larval case on bark of kiawe tree collected at Ewa coral plain, April 13, 1932. The larval cases were quite common on the trees in the region. It is the first time it has been known to occur at such low elevation. It most commonly occurs on the bark of koa trees, as on Mt. Tantalus and similar elevations.

Anagyrus saccharicola Timb.—Mr. Swezey reported that he had recently received Mr. Timberlake's M.S.* description of this mealybug parasite. He also reported that it had been found established and widely dispersed in the plantations on the north side of Oahu and also the west side, now making a complete dispersal on Oahu.

Conoderus exsul (Sharp).—Mr. R. H. Van Zwaluwenburg called attention to the general acceptance by most authorities of the generic name *Conoderus* for the elaterid beetles commonly known as *Monocrepidius*. These genera were established by Eschscholtz in Thon's *Entomologisches Archiv*, Vol. 2, part 1, in 1829, *Conoderus* on page 31 and the other on the following page. The type of *Conoderus* is defined as having the prothorax long and conical, and the apex of the elytra bispinose; in *Monocrepidius* the prothorax is wide, and the tips of the elytra are without spines. Perhaps a monographic study of the some 350 species involved would result in both genera being valid, and in the definition of additional genera. From our present knowledge of the species-complex the common immigrant *Monocrepidius* in Hawaii, with the tips of its elytra often terminating in short but well-defined spines, should be known as *Conoderus exsul* (Sharp).

Cosmophila vulpicolor Meyr.—Dr. Williams mentioned that he had collected a large larva of this noctuid moth that was feeding on the rosaceous plant *Osteomeles anthyllidifolia* Lindl. near Naalehu in the Kau desert of Hawaii, in April, 1932. The caterpillar spun a cocoon and pupated but failed to hatch. Heretofore this insect has been found only on Molokai and Oahu.

Epitritus wheeleri Donisthorpe.—In collecting insects in the old pahoehoe lava area south of Olaa village, Hawaii, in April, 1932, Dr. Williams found several kinds of ants, including a specimen of *Epitritus wheeleri*, a tiny species with long slender mandibles. It was first found here at Waimanalo, Oahu, in June, 1932, by Mr. O. H. Swezey. Also at Olaa, were taken some specimens of a tiny ant new to the islands.† It seems to belong to the genus *Strumigenys*, subgenus *Cephaloxys* F. Smith that has shorter, fine-toothed mandibles than our *Strumigenys lewisi* Cam., but like it

* Published in Proc. Haw. Ent. Soc., VIII, No. 1, p. 159, 1932.

† *Strumigenys membranifera* Emery, var. *williamsi*. Identified by Dr. W. M. Wheeler. See pages 275-276 in this issue.—[Ed.]

is hypogaeic, though in larger colonies. The ants were found under moss on lava stones, under the latter or in the soil at the base of grass. The destructive *Pheidole megacephala* ant was not found in this district.

Anagyrus saccharicola Timb.—Dr. Williams also reported that the Philippine encyrtid parasite of the pink sugar cane mealybug was found established on all five of the sugar plantations on Maui (April, 1932).

Melanoxanthus melanocephalus (Fabr.)—A specimen of this elaterid beetle was taken on the lanai (porch) of the Hilo Hotel, Hilo, Hawaii, in April, 1932, by Dr. Williams. This is the first record of this beetle on the Island of Hawaii.

Stenomicra, apparently *angustata* Coq.—Dr. Williams exhibited a small, rather slender pale yellowish brown fly of the family Geomyzidae, determined by Dr. J. M. Aldrich as *Stenomicra* species apparently *angustata* Coquillett, an insect described from Puerto Rico, in 1900. The genus is monotypic. This agile fly may sometimes be seen in the cane fields of Hawaii, it having the habit of retracing its steps and moving backwards on a leaf, and calls to mind thereby some of the small pale-colored chalcid wasps. The specimen in hand was reared from one of two larvae secured by Mr. O. H. Swezey from the water-filled leaf base of Job's Tears (*Coix lacryma-jobi* Linn.). The larva has a small head and a forked caudal end and is quite flattened (depressed) and moves in an undulating manner, somewhat caterpillar-like, and is aided by prolegs. It is glassy-white except for gut, or glands. On one occasion one of the larvae was seen swallowing large quantities of air which, entering the gut as lengths of silvery cylinders, broke up in bubbles, one behind the other. The larvae were transferred to water in a thick watch glass and supplied with a portion of decayed leaf. They remained more or less submerged, sometimes completely so. From one of these larvae a single adult was produced on February 12, 1932. The larvae never appeared well fed and one of the two was observed as late as February 5, making the larval life a long one.

Mr. Ehrhorn exhibited a number of pupae of the ladybeetle *Chilocorus circumdatus* (Schön.), aligned on a twig.

Dr. Carter exhibited some photographs that showed experimentally-produced pineapple wilt, also "green spotting" by what seemed to be a certain strain or condition of the pineapple mealybug. The anatomy and secretions of these mealybugs were discussed.

NOTES AND EXHIBITION OF FOREIGN MATERIAL

Mr. E. P. Mumford exhibited specimens of three acridids (short-horned grasshoppers) endemic to the Marquesas Islands, together with the following notes. "Endemic Acridids and other Orthoptera of the Marquesas Islands": At the last meeting of the Hawaiian Entomological Society, I exhibited specimens of *Cyphogastra bedoci* Théry, a buprestid endemic to the Marquesas Islands and remarkable for its interesting discontinuous geographical distribution.

I now wish to show specimens of three endemic acridids from the same group of islands. The first of these, a new species of *Patanga*, was taken for the first time by the Pacific Entomological Survey in large series on the uninhabited island of Eiao, some 54 miles to the northwest of Nukuhiva. This island was visited by the Entomological Survey in September, 1929, and again in April, 1931. It had not hitherto been visited by entomologists.

I also wish to exhibit specimens of *Valanga marquesana* Uvarov which is endemic to the island of Nukuhiva, already mentioned as some 54 miles to the southeast of the island to which the new species of *Patanga* is restricted.

In addition to the endemic acridids mentioned above, I am showing specimens of the endemic genus and species *Ootua antenata* Uvarov, which is peculiar to the island of Hivaoa, some 90 miles to the southwest of Nukuhiva.

Though there are no native Acrididae in Hawaii, endemic species occur in Samoa.

Two interesting features of the Marquesan acridids (as far as they are at present known) are the restriction of each species to a single island and the presence of as many as three genera. The presence of the endemic genus *Ootua* is noteworthy.

In addition to the above, the Survey has made collections of an endemic tetrigid of the genus *Hydrotetrix*. The Marquesan species appear to be morphologically distinct from the Tahitian;

they have similar aquatic habits, frequenting wet rocks on the banks of mountain streams and swimming strongly under water. No species of the family has been described from the Marquesas hitherto. The presence of this genus both in the Marquesas and Society Islands and its absence from the Hawaiian Islands is significant.

Of the two species of Gryllidae, one is widespread in Oceania, and the other is probably distributed by commerce. The Tettigoniidae, represented in Hawaii by endemic species of *Banza*, are in the Marquesas represented by some remarkable endemic conocephalids. Unlike Hawaii, there are in the Marquesas a number of endemic blattids.

The Phasmidae are represented by a species of stick-insect, *Graeffea crouanii* (Le Guillou), which feeds on the leaves of the coconut.

There are thus only two families of Orthoptera apparently totally unrepresented in the Marquesas, i.e., the Mantidae and Grylloblattidae.

BOOK REVIEWS

Mr. E. H. Bryan, Jr. gave a brief commendatory review of two books, i.e., "Classification of Insects," by C. T. Brues and A. L. Melander, and "Hunting Insects in the South Seas," by Evelyn Cheesman.

JUNE 2, 1932

The 317th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., on June 2, 1932, at 2:30 p.m.

The following members were present: Adamson, Bianchi, Bryan, Ehrhorn, Hagan, Illingworth, Ito, Keck, Mason, Mitchell, Mumford, Phillips, Rosa, Schmidt, Swezey and Van Zwaluwenburg.

Visitor: Mr. Solander.

In the absence of the President, Vice-President Hagan called the meeting to order, and requested Mr. Van Zwaluwenburg to act as Secretary in the absence of Dr. Williams.

Mr. Bryan's comments on Miss Cheesman's book, "Hunting

Insects in the South Seas," led to a discussion by Messrs. Swezey, Adamson and Bryan of native names for insects. Native insect names both here and in other Pacific islands are comparatively few and are seldom specific. In contrast to this there are a great many native names for plants, birds, fish and other more or less conspicuous objects of natural history.

NOTES AND EXHIBITION OF LOCAL MATERIAL

Cremastus hymeniae Vier.—Mr. Rosa exhibited specimens of this ichneumonid reared from *Bactra truculenta* Meyr. (a previously unrecorded host) on Maui. Two specimens of this wasp were reared from cocoons found in dying nutgrass stems, at Lahaina, Maui, on April 23, 1932.

Rhizobius ventralis (Erich.).—Mr. Rosa reported finding a larva of this coccinellid feeding on *Spodoptera mauritia* eggs collected in a cane field at Hana, Maui. The larva was quite small when found and thrived on *mauritia* eggs, finally maturing on May 4, 1932. This is a new record of food habit.

Hister bimaculatus Linn.—Mr. Van Zwaluwenburg reported collecting a specimen of this uncommon beetle on the Schofield Golf Club grounds, May 18, 1932. Mr. Swezey had also found another beetle of this species in a lot of old grass brought in by Dr. Williams from the same locality.

**Cephalonomia peregrina* Westw.—Mr. Swezey reported the recovery of this bethylid at his home in Manoa Valley, May 22, 1932, where it had bred on *Catorama mexicana* Chevr. He secured 7 females and a batch of cocoons from Catorama-infested tomato seeds. This parasite had been liberated there in September, 1930, and it evidently became established. The original ones had come from India in May, 1930, having been found in a cardboard infested with a ptinid that came in a mail package. Several generations were reared and liberated in buildings at the H.S.P.A. in 1930. This is the first recovery.

Empoasca solana De Long.—Mr. Swezey stated that he had recently received this identification by Mr. F. W. Poos of Arlington Farm, Va., for the little green jassid occurring on amaranths and several other weeds and plants.

* Identification furnished by Dr. Marshall. See page 238 in this issue.

Anagyrus saccharicola Timb.—Mr. Swezey reported having collected mealybugs from a field at Oahu Sugar Company, and finding 20 per cent parasitized by this Philippine *Anagyrus*. From a field at Waianae, 10 per cent were parasitized.

Pseudococcus kraunhiae (Kuwana).—Mr. Swezey reported having found Ipomoea pods infested with this mealybug at Mapulehu, Molokai, April 4, 1932. From these mealybugs he had reared two parasites: *Pauridia peregrina* Timb. and *Leptomastidea abnormis* (Gir.). This is the first record of the latter on Molokai.

Coccotrypes dactyliperda (Fab.).—Mr. Swezey reported finding one of these scolytid beetles in seed of the cabbage palm on May 11, at the Vineyard Street Nursery. It was the first time that he had found it in seeds of this palm.

Lagocheirus obsoletus Thoms.—A specimen of this cerambycid beetle was exhibited by Mr. Swezey, which was collected May 11 in a pupal cell in a log of *Araucaria brasiliensis* at the Vineyard Street Nursery, Honolulu. A pupa and several larvae were also found, and numerous exit holes from which the beetles had issued. The larvae fed in the inner bark, then when full-grown each gnawed a circle nearly through the outer bark, before burrowing into the wood to make its pupal cell, lying lengthwise and about $\frac{1}{2}$ inch inside the wood. The circle formed a lid from 1 to $1\frac{1}{4}$ inches in diameter, which apparently in most cases broke away before the adult beetle was ready to issue. This is a much larger opening through the bark than is necessary to allow the adult beetle to issue, for it is usually about $\frac{1}{4}$ inch wide, and usually the provision that the larva of cerambycid beetles makes for the exit of the adult through the bark is to gnaw a hole almost through the bark, and merely of sufficient diameter to allow the exit of the beetle.

Pycnoderes 4-maculatus Guer.—Dr. Illingworth found this species infesting squash vines at Kaimuki, May 30, 1932. This species was first reported by him January 2, 1930 (Proc. Haw. Ent. Soc., VII, p. 466) feeding upon purslane.

Engytatus geniculatus Reuter.—Dr. Illingworth found these bugs on squash vines at Kaimuki. The leaves of the plants were

drying up from the effects of a disease showing as a mildew-like growth on the under surface. These bugs have frequently been reported as a pest of tomatoes in the Islands, but none of these plants was growing in the vicinity of the infested squash plants. Squash disease resulting in wilt of the leaves affected was exhibited by Dr. Illingworth. The young leaves showed an abundant population of a green jassid. Spots of mildew soon appeared, followed quickly by drying of the leaf at the edges. In a few days the whole leaf is dry and dead. Other insects found on the plants were *Pycnoderes 4-maculatus* Guer. It is a question, however, whether the insects have any relation to the failure of the plants.

Latrodectus mactans (Fab.).—Mr. Ehrhorn showed an unhatched egg-case of the black widow spider. Both he and Dr. Illingworth commented on the highly cannibalistic habits of this spider.

Rhodesiella elegantula Becker.—Mr. Bryan exhibited a vial of flies handed him by Mr. Keck, which had been caught at Moanalua, Oahu, by Mr. K. H. Lau, May 23, 1932, where they were caught in Mediterranean fruit-fly traps containing a rice bait, in great numbers. The species seems to be *Rhodesiella elegantula* Becker, a hitherto rare fly.

**Agrilus extraneus* Fisher.—The capture of this buprestid by Mr. Bianchi on a blossom of *Argemone glauca* L. at Waipahu, Oahu, in May, was reported. Comparison with specimens in the Bishop Museum shows it to be identical with the specimens recorded by Sharp in the *Fauna Hawaiiensis* (Vol. 3, p. 400). According to Sharp at that time (1908) the insect was a recent immigrant to Oahu.

Scelio pembertoni Timb.—Mr. Swezey reported the first field recovery of this egg-parasite of *Oxya chinensis* (Thun.). Grasshopper eggs exposed by Mr. Lex Brodie at the Manoa arboretum subsequently yielded two specimens of this scelionid, which was introduced by Mr. Pemberton from the Federated Malay States in 1931.

Erebus odora L.—Mr. Swezey reported that Dr. Williams wrote from Hilo, Hawaii, of finding large numbers of larvae of

* Described on page 249 of this issue. [Ed.]

this species clustered on *Cassia nodosa* Ham. Mr. Swezey suggested that one reason the larvae are so seldom seen is that they may feed nocturnally on the foliage of their various leguminous hosts.

Cephennodes hawaiicus Blattny.—Mr. Van Zwaluwenburg reported that Mr. L. L. Buchanan of the U. S. National Museum writes that the minute scydmaenid beetle found in soil on Tantalus, Oahu, has been given the above manuscript name by Dr. Blattny of Czechoslovakia.

Bufo marinus.—The introduction of the giant West Indian toad from Porto Rico by Mr. Pemberton in April, 1932, was placed on record. Four shipments totalling 148 live toads on arrival were received; these were released at the Manoa Substation (68 specimens) and in a taro patch adjoining the Waipio Substation (80 specimens). This toad was introduced into Porto Rico in 1920 and 1921 from Barbados and Jamaica, and is reported to have increased there to enormous numbers. It is a general insect feeder, being particularly addicted to scarabaeid adults.

EXHIBITION OF FOREIGN MATERIAL

Mr. Adamson exhibited a photograph of a minute Marquesan lathridiid beetle superficially resembling *Proterhinus*, which Dr. E. C. Van Dyke has described as a new genus, *Mumfordea*. Two species were taken in the Marquesas by the Pacific Entomological Survey.

JULY 5, 1932

The 318th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., on July 5, 1932, at 2:30 p.m.

The following members were present: Messrs. Adamson, Bianchi, Bryan, Chock, Chapman, Ehrhorn, Mumford, Pemberton, Phillips, Rosa, Schmidt, Smith, Van Zwaluwenburg, Watt and Williams.

Visitor: Miss Suehiro.

President Chapman called the meeting to order.

The minutes of the preceding meeting were read and approved.

NOTES AND EXHIBITIONS

Annoying house mites, presumably from birds' nests, was brought up for discussion by Dr. Chapman, Mr. Pemberton and others participating.

Tromatobia rufopectus (Cresson).—Specimens of this ichneumonid were exhibited by Mr. Rosa. He had collected them in a cane field of the H.S.P.A. Substation at Kailua, Oahu, June 14, 1932. They were issuing from an egg sac of the spider *Argiope avara* Thorell. The larvae feed on the spider eggs, later pupating in the sac. These specimens were identified by Dr. F. X. Williams. This is a new immigrant in Hawaii.

Mr. Bryan exhibited specimens of the following species of flies from the Hawaiian Islands, which had recently been determined for him by Dr. J. M. Aldrich of the U. S. National Museum:

Borborus bilineatus Grimshaw, an endemic species (family Borboridae) from Kahoolawe Id., February 19, 1931, one near the house and one swept from salt bush.

Hecamede albicans Meigen, first record of an immigrant European species (family Ephydriidae), swept from salt bush, Kahoolawe, February 14, 1931.

Gymnopa sp., 3 specimens from Kahoolawe, swept from salt bush, February 14, 1931.

Psychoda albipuncta Williston, which Edwards (The Entomologist, 61, p. 32, 1928) places in the genus *Telmatoscopus*. This large, gray, hairy psychodid is now becoming fairly abundant about water holes, and occasionally coming into houses, where it frequents sinks, washbowls, and windows.

Euplectrus platyhypenae Ashm.—Mr. Bryan exhibited a series of this parasite which were bred from a caterpillar on yellow Coreopsis in his garden in Manoa. The caterpillar was covered with the characteristic hairy fuzz, in which the parasites pupate. Fifty-seven wasps emerged.

**Strumigenys* sp.—Dr. Williams spoke of an ant taken by himself near Olaa, Hawaii, in April and recently identified by Dr.

* *Strumigenys (Cephaloxys) membranifera* var. *williamsi*. See page 276 of this issue. [Ed.]

W. M. Wheeler of Harvard University as *Strumigenys* of the subgenus *Cephaloxys*, with the remark: "Possibly it is an old, indigenous, relict form."

Anagyrus saccharicola Timb.—Dr. Williams reported the recovery of the Philippine Anagyrus wasp, parasitic on the pink sugar cane mealybug, in Field 33, Honomu Sugar Company, Hawaii, on June 9, 1932.

Scelio pembertoni Timb.—Mr. Pemberton spoke of the recovery, for the second time, of the Scelio wasp, parasitic on Oxya grasshopper eggs, at Waimanalo, early in June of this year. Oxya eggs were placed in the field and brought into the laboratory, where, in due time, Scelio wasps were disclosed. Scelio wasps had been liberated at Waimanalo a considerable time previous. He also exhibited some Porto Rican sugar cane pests and their parasite and spoke of the rapid spread of the cottony-cushion scale on that island and the introduction from Florida of *Vedalia cardinalis*, its ladybeetle enemy.

AUGUST 4, 1932

The 319th regular meeting of the Hawaiian Entomological Society was held August 4, 1932, at the H.S.P.A. Experiment Station, Honolulu, T. H., at 2:30 p.m.

Members present: Messrs. Adamson, Bianchi, Bryan, Chock, Ehrhorn, Illingworth, Keck, Mason, Pemberton, Schmidt, Smith, Swezey, Van Zwaluwenburg and Williams.

Visitors present: Mrs. E. M. Blackman, Mrs. M. E. Washburn, and Mr. Solander.

The President and Vice-President being absent, the Secretary-Treasurer suggested that someone be appointed chairman for the meeting. It was moved and seconded that Mr. E. M. Ehrhorn be so appointed. Mr. Ehrhorn accepted the chair and called the meeting to order.

The minutes of the preceding meeting were read and approved as corrected.

Publication Committee.—Mr. O. H. Swezey reported that the Hawaiian Sugar Planters' Association had assured its financial aid

towards publishing the Proceedings of the Hawaiian Entomological Society, VIII, No. 1, and the work is now well under way.

Mr. C. E. Pemberton reviewed a paper entitled: "Entomological Researches in the Marquesas Islands," by E. P. Mumford and A. M. Adamson, that was presented at the Entomological Meeting in Paris this summer. It brought forth much favorable comment and the hope that the survey be continued to completion.

Mr. E. H. Bryan, Jr., stated that Dr. L. Berland, of the Natural History Museum at Paris, who was undertaking a comprehensive publication on Zoogeography, wrote asking for papers on the Hawaiian insect fauna. After some discussion the chairman suggested that the secretary write to Dr. Berland referring him to the principal entomological works dealing with the Hawaiian insect fauna.

The chairman, Mr. E. M. Ehrhorn, stated that he had received a letter of greeting from Dr. L. O. Howard in Paris.

Mr. A. M. Adamson spoke of the use of cellophane envelopes for Odonata, an innovation of Dr. Needham's.

PAPER

Mr. O. H. Swezey presented a paper entitled, "New Insect Records on Molokai and Miscellaneous Notes."

LOCAL NOTES AND EXHIBITS

Adenoneura parapteryx Meyrick.—Mr. Swezey brought to attention that the tortricid described under this name by Meyrick in Exotic Microlepidoptera, IV, Pt. 7, p. 222, 1932, is the same as we have been calling *A. falsifalcellum* Walsm. This latter name has been used for it in the Proceedings of the Hawaiian Entomological Society, Vol. II, pp. 93, 142; Vol. VII, p. 281.

Hermetia illucens (Linn.).—Dr. Williams exhibited specimens of a large stratiomyid fly, identified as the widespread tropical and sub-tropical American *Hermetia illucens* (Linné) and found also in Samoa. It was noted as an adult insect in 1930, in upper cane fields of Hilo Sugar Company, but not recognized then as something new. During July, 1932, however, a number of individuals were bred from filter-press mud obtained in a mauka field of Hilo Sugar Company, Hawaii. The insect is common in the West Indies where it has also been found to breed in filter-press mud by Van Zwaluwenburg and Wolcott. It is a new immigrant in Hawaii.

Phygadeuon sp.—Specimens of this ichenumonid wasp, apparently a species of *Phygadeuon*, found in the same locality and at the same time as *Hermetia illucens*, were caught chiefly on the filter-press mud wherein also the syrphid flies *Volucella obesa* (Fabr.) and *Lathryophthalmus arvorum* (Fabr.) were breeding. The wasp is parasitic in the puparium of *Lathryophthalmus*; a rather weak cocoon of silk enclosing the pupa of the hymenopter being found in one puparium. Some of the European *Phygadeuonides* are parasites of Syrphidae. It is a new immigrant in Hawaii.

Mr. Q. Chock exhibited a handsome araneid spider which he had taken on its web at Pearl City.

Pseudococcus longispinus (Targ.).—Mr. C. Schmidt stated that he found this mealybug on pineapple crowns on the Island of Lanai, most of the adult mealybugs being parasitized by the Chalcid wasp *Anagyrus nigricornis* Timb. This is a new record for Lanai. He further stated that *Hellula undalis* (Fabr.), the imported cabbage webworm, did a great deal of damage to the daikon seedlings in open greenhouses at the Pineapple Experiment Station in Honolulu.

SEPTEMBER 1, 1933

The 320th regular monthly meeting of the Hawaiian Entomological Society was held at the Experiment Station of the Hawaiian Sugar Planters' Association on September 1, 1932, at 2:40 p.m.

Members present: Messrs. Adamson, Bianchi, Bryan, Ehrhorn, Pemberton, Rosa, Schmidt, Smith, Swezey, Van Zwaluwenburg and Williams.

Visitor: Mr. E. L. Caum.

In the absence of both President and Vice-President, Mr. O. H. Swezey was selected chairman for the meeting. Mr. Swezey took the chair.

The minutes of the preceding meeting were read and approved.

The Secretary then read a communication delivered to him some time ago; a letter from Dr. F. G. Krauss, Director of Extension work in agriculture, University of Hawaii, to Dr. R. N. Chapman, President of the Hawaiian Entomological Society. The letter had reference to guarding against the potato tuber moth (*Phthorimaea operculella*) in Hawaii. Following a discussion on

this pest, already well established in Hawaii, a motion was made by Mr. E. H. Bryan, Jr., seconded by Mr. E. M. Ehrhorn, and passed by vote, that the Secretary be instructed to communicate with Dr. Krauss, informing him that the potato tuber moth is already established in Hawaii, and that while the Hawaiian Entomological Society would be glad to advise on control measures, it feels that this problem more fittingly belongs to the entomological department of the Territorial Board of Agriculture and Forestry, or to that of the University itself.

PAPER

"Insects from Kaula Island"

BY E. H. BRYAN, JR.

Specimens were exhibited and Mr. E. L. Caum gave interesting observations on his trip to Kaula Island, showing a number of photographs of this rugged and desolate islet, a sea-bird rookery. Skink lizards were also present. The vegetation was low and scant.

NOTES AND EXHIBITIONS

Mr. F. Bianchi exhibited a spider that he had found in the basement of the H.S.P.A. Experiment Station.

Tinea pellionella L.—Mr. Swezey reported this moth as a host for *Protapanteles hawaiiensis* Ashm. From 14 larval cases found among fibrous litter beneath insect cabinets, 4 of the braconids had already issued, as evidenced by their empty white cocoons inside the cases of the host. This equalled 28% parasitism.

Plagithmysus perkinsi Shp.—Mr. Swezey exhibited a specimen of this longicorn beetle, which had recently matured from a larva found boring in Myoporum at Nauhi, Hawaii, 6,000 feet elevation, September 29, 1931.

Plagithmysus concolor Shp.—A specimen of this longicorn beetle was exhibited by Mr. Swezey, who had reared it from a larva collected under bark of a fallen lehua tree at Halemanu, Kauai, July 6, 1932. The beetle matured August 23. This is the first record of the rearing of this beetle, but it has been collected previously on lehua by Osborn in 1919, and on Ohia ha by Perkins.

Trigoniulus lumbricinus (Gerst.).—Dr. Williams stated that he and Mr. Van Zwaluwenburg, while examining old cane stubble in Field 60, just above Aiea, Honolulu Plantation Company, August 4, 1932, discovered several specimens of this large millipede. This seems to be a new locality record, and its farthest distribution from Honolulu.

OCTOBER 6, 1932

The 321st regular monthly meeting of the Hawaiian Entomological Society was held at the Experiment Station of the Hawaiian Sugar Planters' Association on October 6, 1932, at 2:30 p.m.

Members present: Messrs. Bryan, Chapman, Chock, Ehrhorn, Illingworth, Ito, Keck, Mason, McBride, Mitchell, Pemberton, Phillips, Rosa, Smith, Swezey, Van Zwaluwenburg, Weinrich and Williams.

Visitors: Mr. G. Solander and Dr. W. D. Funkhauser.

President Chapman called the meeting to order. The minutes of the preceding meeting were read and approved.

PHOTOGRAPH COMMITTEE

Mr. Bryan presented the Society with a photograph of the late Dr. N. A. Cobb, an early member of the Society.

PAPERS—LOCAL SUBJECTS

On behalf of Mr. F. Bianchi, Mr. Swezey presented a paper by W. S. Fisher, of the Bureau of Entomology, entitled: "A New Species of *Agrilus* from the Hawaiian Islands."

Coconut weevils from Samoa.—Mr. Swezey exhibited specimens of two weevils recently taken by Mr. Whitney in quarantine inspection, on coconuts received from Samoa, August 11. One was determined as *Aphanocorynes humeralis* Marshall, by comparing with specimens from Samoa, at the Bishop Museum. The other was found to be the same as a *Pentarthrum-like weevil that has been known in Oahu since 1908, but unidentified. This weevil was first collected on sugar cane (beneath leaf sheaths) at Waialua in 1908; at Ewa Plantation in 1912 and 1932; at Waipio, on bark of algaroba tree, in 1919. Apparently it is of no importance as it remains rare.

* Later identified by Dr. Marshall from Oahu specimens as *Stenotrupis filum* Fairm. from Tahiti. [Ed.]

Aspidiotus lataniae Sign.—Mr. Swezey reported that Mr. Whitney had identified as this species a scale insect infesting gladiolus corms handed in by Dr. Forrest Brown. Apparently it is the first record of it infesting gladiolus in Hawaii. It usually infests palms.

Contarinia maculipennis Felt.—Mr. Swezey reported that Dr. Williams had found the hibiscus bud-midge affecting the flowers of his Tantalus white hibiscus growing at Woodlawn, Manoa Valley, Sept. 5. The petals were somewhat crumpled by the injury of the midge larvae while still in bud. The injured buds did not fall off as has heretofore been noticed with other hibiscus buds when attacked by the midge larvae. The flower opened normally except that those petals which happened to have been injured were somewhat crumpled.

Rhynchephestia rhabdotis Hamps.—Mr. Swezey exhibited this phycitid moth and called to attention that its description had been published in Ann. Mag. Nat. His. (10), V, p. 52, 1930. This is the moth whose larvae feed in the flower heads and in the stems of the silversword (*Argyroxiphium sandwicense* var. *macrocephalum*) in Haleakala Crater, Maui.

Tromatobia rufopectus (Cress.).—Mr. Swezey reported having reared nine females and two males of this ichneumonid from an egg cocoon of *Argiope avara* Thor. collected in Makua Valley, Sept. 27, 1932. From the eggs of the mass that were not eaten, 360 spiders hatched Oct. 8. The 11 parasites issued from their cocoons Oct. 10. Mr. Swezey reported also having caught a specimen of this parasite at Gunsight Pass in the Waianae Mts., Sept. 11, 1932. It was in the vicinity of a web of a large spider different from *Argiope avara*, probably a species of *Epeira*. No egg cocoons were found.

Toxomerus marginatus (Say).—Mr. Swezey exhibited this small syrphid fly which he had caught at Kokee, Kauai, June 14, 1932. It is the first record of it in the Hawaiian Islands. It is a common species in the United States, where it has been recorded as a predator on aphids. It was quite common at Kokee, but its habits were not observed, except that the adults were about flowers of California daisy and English plantain.

Antonina indica Green on Sugar Cane.—The finding of this coccid (identified by Mr. Swezey) on Lahaina cane, among the aërial roots just above ground, was reported by Mr. Van Zwaluwenburg. Two plants among 30 grown outdoors on isolated tables at the Alexander Street plot (Honolulu) for about six months, harbored the insect, mature females of which were present. Manie-nie (Bermuda) grass and a few species of Paspalum are commonly hosts of *A. indica*, but the previous finding of the species on sugar cane does not appear to have been published. Dr. Williams has recently found an Antonina on aërial roots of sugar cane in the germinating house at Mapulehu, Molokai, on September 25, 1931.

Reduviolus capsiformis (Germ.).—Mr. Bryan exhibited a specimen of this bug (Nabidae) which had been caught by Mrs. Bryan on the lawn of their home in Manoa. Another specimen of what is thought to have been the same species was found sucking blood from the baby, having raised three small welts on his neck.

Pyralis mauritialis Boisd.—Mr. Bryan exhibited for Miss Sue-hiro: 35 or more of this moth which had issued from a nest of *Polistes hebraeus* (Fabr.) at Bishop Museum during August and September. Wasp's nest was collected by K. O. Moe.

Chloridea obsoleta (Fabr.).—Dr. Williams reported taking a young caterpillar of the corn ear worm in a head of sudan grass at Mapulehu, Molokai, on September 26, 1932.

Scymnus pictus Gorh.—Mr. Chock reported the recovery at Kunia, Oahu, on August 23 of this year, of the neotropical cecidomyiid fly* and the coccinellid (*Scymnus pictus*) which are enemies of the pineapple mealybug, introduced from Mexico in 1930.

NOTES—FOREIGN SUBJECTS

Mr. Swezey presented the following recent determinations of Indian insects, by Dr. Marshall:

Zeugenia glutae Mshl. n. sp.—A weevil taken in quarantine inspection in Honolulu in seeds of *Gluta travancorica* from India, December 3, 1929. Dr. Marshall found it to be a new species, the description of which will be published shortly.**

* *Lobodiplosis pseudococci* Felt. Journ., New York Ent. Soc., XLI, p. 87, 1933. [Ed.]
** Marshall. Stylops, I, pt. 10, p. 212, 1932. [Ed.]

Gastrallus laticollis Pic.—An anobiid found in cardboard used in packing in a package from India, May, 1930.

Cephalonomia peregrina Westw.—A bethylid found parasitizing larvae of the preceding beetle. Several generations of this parasite were bred in Honolulu on various species of Anobiidae, and some liberations made. After about a year a recovery was made, indicating that it has become established. (Det. by Dr. Ferrière.)

NOVEMBER 3, 1932

The 322nd regular meeting of the Hawaiian Entomological Society was held at the Experiment Station of the Hawaiian Sugar Planters' Association on November 3, 1932, at 2:30 p.m.

Eighteen members were present.

President Chapman called the meeting to order.

The minutes of the preceding meeting were read and approved as corrected.

The President read the obituary notice of Dr. B. W. Evermann, Director of the Museum of the California Academy of Sciences and of the Steinhart Aquarium. Dr. Evermann, an ardent naturalist, was acquainted with many of us in Hawaii.

Mr. G. Solander was elected to junior membership.

The Secretary read some correspondence re the potato tuber moth in Hawaii.

LOCAL PAPERS

Mr. C. E. Pemberton read a paper entitled "Delayed Incubation Among Eggs of *Oxya chinensis* (Thun.)."

LOCAL EXHIBITS OF MATERIAL

Mr. E. M. Ehrhorn recorded the following species at 3,500-ft. elevation on Maui:

Scolia manilae Ashm.

Polistes fuscatus var. *aurifer* Sauss. with stylops (*Xenos auri-ferae* Pierce).

Pseudococcus adonidum on *Myoporum* sp. attended by ants.

Pheidole megacephala and *Tetramorium* sp. (?)

Carpophilus humeralis—pineapple beetle.

Haplothrips usitatus, blossoms.

Stenommatus musae Marshall.—This small weevil was exhibited by Mr. Swezey, who had collected several specimens in rotting banana corms in his garden in Manoa, September 24, 1932. This is the first record of his finding this weevil since the original discovery in banana corms in Kaimuki, February 19, 1920. Dr. Marshall described it at that time as a new species. Later he recorded it from bananas from S. Africa, imported from Java, which he considered its home.

New Elaterid records from the Tuamotus.—Mr. R. H. Van Zwaluwenburg exhibited specimens of *Simodactylus cinnamomeus* (Boisd.) and *Conoderus pallipes* (Esch.), collected on the island of Makatea, Tuamotu Archipelago, in September by Dr. Gerrit P. Wilder. Although the two species are widely spread in the Pacific, Makatea is a new locality record for each. For *C. pallipes* this westernmost island of the Tuamotus thus far marks the eastern limit of its known range.

Oligotoma texana (Mel.).—Mr. Bryan called attention to an article by Harlow B. Mills in the Annals of the Entomological Society of America, Vol. XXV, No. 3, September, 1932, pages 648-652, on the life history and thoracic development of *Oligotoma texana* (Mel.) (Embiidina), in which the author suggests that the external appearance of the wing pads of male embiids takes place during more than one instar, thus substantiating the somewhat discredited observations of Dr. R. C. L. Perkins, made in Entomologist's Monthly Magazine, 1897, pp. 56-58, for *Oligotoma insularis* McLach.

Chalybion caeruleum (Linn.).—Dr. Williams reported seeing at close quarters a female of the steel-blue, mud-daubing wasp (*Chalybion caeruleum* (Linn.)), a recent immigrant, a single specimen of which was taken in Honolulu on June 8, 1931, and specimens of what seemed to be the same species observed flying about a fence at Ewa Plantation Company, in March, 1932.

Mr. Bryan stated that several papers of the Pacific Entomological Survey had just been published by the Bishop Museum.

DECEMBER 1, 1932

The 323rd regular meeting of the Hawaiian Entomological Society was held at the Experiment Station of the Hawaiian Sugar Planters' Association, on December 1, 1932, at 2:30 p.m.

Members present: Messrs. Bryan, Chapman, Hadden, Hong, Illingworth, Ito, Keck, Marlowe, Mason, McBride, Mitchell, Pemberton, Riley, Rosa, Schmidt, Smith, Solander, Swezey, Van Zwaluwenburg, Whitney, and Williams.

Visitors: Miss Suehiro and W. Y. Whang

President Chapman called the meeting to order. The Secretary then read the minutes of the preceding meeting. Approved as read. Announcement was made of the resignations from the Society of Mr. J. T. Watt and Dr. H. Hagan. It was moved by Mr. Pemberton and seconded by Mr. Hadden that these two resignations be accepted with regrets by the Society, through the Secretary-Treasurer.

Election of officers for 1933 resulted as follows:

President: C. E. Pemberton

Vice-President: O. C. McBride

Secretary-Treasurer: F. X. Williams

Additional members of Executive Committee:

E. M. Ehrhorn and O. H. Swezey.

The Treasurer presented the financial report of the Society for the period beginning December 3, 1931, and ending December 1, 1932. It was accepted subject to auditing, and the President appointed Mr. O. H. Swezey a committee of one to audit this account.

Presidential address: "**The Causes of Fluctuations in Populations of Insects**," by Dr. R. N. Chapman. This interesting paper brought forth much discussion.

PAPERS ON LOCAL SUBJECTS

"**New Hawaiian Lepidoptera**," by O. H. Swezey.

"**Notes on Tromatobia rufopectus in Hawaii**," by O. H. Swezey.

"**Introduction to Hawaii of Malayan Parasites (Scelionidae) of the Chinese grasshopper Oxya chinensis (Thun.)**, with Life History Notes," by C. E. Pemberton.

"New Hawaiian Coleoptera, with Notes on Some Previously Known Species," by Dr. R. C. L. Perkins (presented by title by O. H. Swezey).

EXHIBITION AND DISCUSSION OF LOCAL MATERIAL

Isodontia harrisi Fernald.—Mr. Swezey reported having observed a female of this wasp with a nymph of *Conocephalus saltator* (Sauss.) which she was apparently carrying to her nest or burrow. The occurrence was by the roadside along a cane field near the mouth of the valley leading from Sacred Falls, November 11, 1932.

Spheterista tetraplasandra (Sw.).—Mr. Swezey exhibited a series of 6 females of this tortricid moth reared from caterpillars collected by him on leaves of *Tetraplasandra* on the ridge leading up to Puu Kaua, Waianae Mts., Oahu, November 6, 1932. The species was described as a *Capua* by Swezey (Proc. Haw. Ent. Soc., IV, p. 385, 1920) from 2 male specimens bred from fruits of *Tetraplasandra* at Wailupe and Kaumuahona, Oahu, respectively. Examination of the types and the more recent specimens shows that the species goes to the genus *Spheterista* erected by Meyrick to contain *Capua variabilis* Walsm. and *C. pleonectes* Walsm., and possibly some other Hawaiian species. Meyrick described *S. asaphopis* in Proc. Haw. Ent. Soc. VII, p. 96, 1928. *S. pleonectes* and *S. asaphopis* were both reared from caterpillars on leaves of *Cheirodendron*.

Ceratitis capitata Wied.—Mr. Swezey reported finding fruitfly maggots in breadfruit, November 21, 1932, from which the flies issued later. This appears to be the first record of the Mediterranean fruitfly breeding in breadfruit.

Acythopeus gilvonotatus Barber.—Mr. Swezey reported that he had recently identified as this species of weevil a specimen collected by Dr. Lyon in orchid greenhouse, Honolulu, April 24, 1916. Barber's description is in Proc. Ent. Soc. Wash., XIX, p. 17, pl. 4, figs. 3, 3A, 1917.

Leucostoma aterrima Villers.—Mr. Swezey exhibited specimens of this tachinid fly which had recently been determined by Dr. Aldrich, and now recorded for the first time under this name in

the Hawaiian Islands. The specimens had been taken for *atra* Towns., which had been identified in 1921 by Dr. Aldrich. (Recorded in Proc. Haw. Ent. Soc., V, p. 30, 1922.) In a recent letter Dr. Aldrich points out the following differences: "The males are easily separated because in *aterrima* the last two segments of the abdomen are pollinose, while in *atra* they are highly shining like the remainder of the fly. The females of *aterrima* have an elongated, slender abdomen, while in *atra* it is of the ordinary form; in both it is entirely black. Another difference, more tangible, is that in *atra* the female has a pair of erect bristles on each side of the first three segments near the hind margin, while in *aterrima* the last segment has only depressed bristles, not an erect pair."

Dr. Aldrich states that the *Leucostoma analis* Meigen? recorded in the Fauna Hawaiiensis, III, p. 20, 1901, is a synonym of *aterrima*.

The specimens recently examined and determined by Dr. Aldrich are as follows:

Leucostoma aterrima—1⁸, Koloa, Kauai, 1908 (Swezey); 1, Ewa Coral Plain, Oahu, 1920 (Williams); 1, Puuloa, Oahu, ex *Corizus hyalinus*, 1920 (Swezey); 1, Kaimuki, Oahu, 1921 (Swezey); 2, Waianae, Oahu, 1930 (Swezey).

Leucostoma atra—1, Honolulu, Oahu, 1920 (Williams).

Pycnoderes 4-maculatus Guerin.—Specimens of the mirid bug *Pycnoderes 4-maculatus* Guerin were exhibited by C. E. Pemberton. He found adults fairly common on garden beans at the residence of A. M. McKeever, Lihue, Kauai. This is the first record of its occurrence on that island. It was first seen in Hawaii on December 11, 1929, by Dr. J. F. Illingworth, who collected it on purslane in Honolulu.

Hypoderma lineata De Villiers.—Mr. Pemberton reported observing with Mr. Swezey the larvae of the ox bot fly (determined by Swezey) in the hides of freshly slaughtered steers from the Kukaiau Ranch, Hawaii. Some of the hides examined had a half dozen or more small holes along the back made by the larvae. Since these cattle were born and reared at Kukaiau, they had become infested at this locality, which indicates that the fly is established in Hawaii. Former recoveries of these larvae in the Terri-

tory have been made only in cattle brought from the mainland and presumably infested there.

Scelio pembertoni Timb.—Mr. Pemberton reported the recovery of *Scelio pembertoni* Timb. from Waimanalo Plantation on June 2, 1932, and again from the same locality during November, 1932. It was also recovered from Waianae Plantation during November, 1932, and a second time during November, 1932, from Upper Manoa Valley. These recoveries were all made by exposing unparasitized *Oryza chinensis* eggs in each locality for from 3 to 7 days and then bringing them to the laboratory and holding in vials for parasite emergence. At each point where parasites were recovered, liberations had been made from 3 months to a year previously with material bred in the laboratory from parasites introduced from the Federated Malay States during 1930-31.

Vespa occidentalis Cresson.—Mr. Pemberton reported having collected a specimen of *Vespa occidentalis* Cresson from a cane leaf at Lihue Plantation, Kauai, November 22, 1932. This is a new locality for it on Kauai. It has not been found on the other islands of the group and has been previously known only in the mountainous portion of western Kauai since January, 1919 (A. Kusche), and at Kilauea Plantation on the north side of the island since September 29, 1930 (F. X. Williams).

Mapsidius auspicata Walsm.—A series of specimens of this moth was exhibited by Mr. McBride that had reared from larvae and pupae brought in from the Hawaii National Park, Kilauea, Hawaii, where they were feeding very abundantly on the foliage of Charpentiera trees. This moth was originally collected by Perkins on Kauai and Lanai. It has been reared by Swezey on Oahu where it is common on Charpentiera. It has not been recorded previously from the island of Hawaii.

Brachistella lutea (Fullaway).—The rearing of this trichogrammid from the eggs of the jassid *Draeculacephala mollipes* (Say), collected in sugar cane leaf at Olowalu, Maui, in November, making a new island record for this parasite, was reported by R. H. Van Zwaluwenburg. The identification was made by Mr. Swezey.

Pheidole megacephala (Fabr.).—Dr. Illingworth stated that there appears to be a lack of evidence of mating flights of this

species of ants. Just after daylight of the morning of November 15, following a heavy rain in the night, the air at Kaimuki was filled with flying insects, extending to great heights. Some of these were captured and they proved to be queens of this species. No males were in evidence. Apparently the flight was nearly over when discovered, the insects settling rapidly to the ground. After about a quarter of an hour none was in evidence. They had scattered widely, and upon alighting quickly sought shelter, crawling beneath rubbish or into cracks in the soil, etc. During the past 20 years several flights of the males of this ant have been observed by Dr. Illingworth. These occurred in the late evening, the insects coming to lights. The indications are that these flights take place during darkness, which would explain the scarcity of observations on this subject.

Taeniothrips gladioli M. & S.—Dr. Chapman mentioned the recent discovery of the presence of this gladiolus pest in Honolulu. Mr. Chock, who was not present, had found gladiolus very severely injured by this thrips at florist gardens in Nuuanu Valley, November 17. It was afterward found in other localities in Honolulu, and Mr. Chock had found it established already on the islands of Maui and Hawaii. Specimens had been submitted by Mr. Whitney to Mr. Steinweden in San Francisco for verification of its identity.